

**ABSTRACT OF THE INVENTION**

A system and method is described for rendering a warped brush stroke using a bitmap brush image, the brush stroke being along a arbitrarily curved guideline. The described system and method generate a piecewise linear approximation to the guideline  
5 followed by generating polygons with the aid of the linear segments such that the generated polygons are convex and contiguous linear segments result in contiguous polygons. A mapping is identified between segments of the bitmap brush and the polygons such that the corners or the boundaries of the segments of a segment map to the corners or boundaries of a corresponding polygon. The segment of the bitmap brush is  
10 mapped into the corresponding polygon using transformations that do not require visiting a pixel in the rendered warped brush stroke more than once. Examples of such transformations include bilinear transformations and texture mapping in combination with tiling.